Virginia Administrative Code

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9VAC25-580-10. Definitions.

The following words and terms, when used in this chapter, shall have the following meaning unless the context clearly indicates otherwise:

"Aboveground release" means any release to the surface of the land or to surface water. This includes, but is not limited to, releases from the aboveground portion of a UST system and aboveground releases associated with overfills and transfer operations as the regulated substance moves to or from a UST system.

"Ancillary equipment" means any devices including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from an UST.

"Below ground release" means any release to the subsurface of the land and to ground water. This includes, but is not limited to, releases from the below_ground portions of an underground storage tank system and below_ground releases associated with overfills and transfer operations as the regulated substance moves to or from an underground storage tank.

"Beneath the surface of the ground" means beneath the ground surface or otherwise covered with earthen materials.

"Board" means the State Water Control Board.

"Building official" means the executive official of the local government building department empowered by §36-105 of the Code of Virginia to enforce and administer the Virginia Uniform Statewide Building Code (USBC).

"Cathodic protection" is a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. For example, a tank system can be cathodically protected through the application of either galvanic anodes or impressed current.

"Cathodic protection tester" means a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried or submerged metal piping and tank systems. At a minimum, such persons must have education and experience in soil resistivity, stray current, structure-to-soil potential, and component electrical isolation measurements of buried metal piping and tank systems.

"CERCLA" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 USC §9601 et seq.).

"Compatible" means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST.

"Connected piping" means all underground piping including valves, elbows, joints, flanges, and flexible connectors attached to a tank system through which regulated substances flow. For the purpose of determining how much piping is connected to any individual UST system, the piping that joins two UST systems should be allocated equally between them.

"Corrosion expert" means a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be accredited or certified as being qualified by the National Association of Corrosion Engineers or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks.

"De minimis" means trivial and beyond the intent of regulation, as that term is used at 53 Fed. Reg. 37108-37109.

"Department of Waste Management" means the Virginia Department of Waste Management which has jurisdiction over the proper handling and disposal of solid and hazardous wastes in the Commonwealth of Virginia.

"Dielectric material" means a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate UST systems from the surrounding soils. Dielectric bushings are used to electrically isolate portions of the UST system (e.g., tank from piping).

"Electrical equipment" means underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.

"Director" means the director of the Department of Environmental Quality.

"Excavation zone" means the volume containing the tank system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the UST system is placed at the time of installation.

"Existing tank system" means a tank system used to contain an accumulation of regulated substances or for which installation has commenced on or before December 22, 1988. Installation is considered to have commenced if:

- 1. The owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system; and if,
- 2.a. Either a continuous on-site physical construction or installation program has begun; or,
- b. The owner or operator has entered into contractual obligations--which cannot be cancelled or modified without substantial loss--for physical construction at the site or installation of the tank system to be completed within a reasonable time.

"Farm tank" is a tank located on a tract of land devoted to the production of crops or raising animals, including fish, and associated residences and improvements. A farm tank must be located on the farm property. "Farm" includes fish hatcheries, rangeland and nurseries with growing operations.

"Flow-through process tank" is a tank that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction into the production process or for the storage of finished products or by-products from the production process.

"Free product" refers to a regulated substance that is present as a nonaqueous phase liquid (e.g., liquid not dissolved in water).

"Gathering lines" means any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations.

"Hazardous substance UST system" means an underground storage tank system that contains a hazardous substance defined in §101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (42 USC §9601 et seq.) (but not including any substance regulated as a hazardous waste under subtitle C of RCRA) or any mixture of such substances and petroleum, and which is not a petroleum UST system.

"Heating oil" means petroleum that is No. 1, No. 2, No. 4--light, No. 4--heavy, No. 5--light, No. 5--heavy, and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.

"Hydraulic lift tank" means a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.

"Liquid trap" means sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations (including gas production plants), for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.

"Maintenance" means the normal operational upkeep to prevent an underground storage tank system from releasing product.

"Motor fuel" means petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, and is typically used in the operation of a motor engine.

"New tank system" means a tank system that will be used to contain an accumulation of regulated substances and for which installation has commenced after December 22, 1988 (See also "existing tank system").

"Noncommercial purposes" with respect to motor fuel means not for resale.

"On the premises where stored" with respect to heating oil means UST systems located on the same property where the stored heating oil is used.

"Operational life" refers to the period beginning when installation of the tank system has commenced until the time the tank system is properly closed under Part VII.

"Operator" means any person in control of, or having responsibility for, the daily operation of the UST system.

"Overfill release" is a release that occurs when a tank is filled beyond its capacity, resulting in a discharge of the regulated substance to the environment.

"Owner" means:

- 1. In the case of a UST system in use on November 8, 1984, or brought into use after that date, any person who owns an UST system used for storage, use, or dispensing of regulated substances; and
- 2. In the case of any UST system in use before November 8, 1984, but no longer in use on that date, any person who owned such UST immediately before the discontinuation of its use.

The term "owner" shall not include any person who, without participating in the management of an underground storage tank or being otherwise engaged in petroleum production, refining, and marketing, holds indicia of ownership primarily to protect the holder's security interest in the tank.

"Person" means an individual, trust, firm, joint stock company, corporation, including a government corporation, partnership, association, any state or agency thereof, municipality, county, town, commission, political subdivision of a state, any interstate body, consortium, joint venture, commercial entity, the government of the United States or any unit or agency thereof.

"Petroleum UST system" means an underground storage tank system that contains petroleum or a mixture of petroleum with de minimis quantities of other regulated substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

"Pipe" or "piping" means a hollow cylinder or tubular conduit that is constructed of nonearthen materials.

"Pipeline facilities (including gathering lines)" are new and existing pipe rights-of-way and any associated equipment, facilities, or buildings.

"RCRA" means the federal Resource Conservation and Recovery Act of 1976 as amended (42 USC §6901 et seq.).

"Regulated substance" means an element, compound, mixture, solution, or substance that, when released into the environment, may present substantial danger to the public health or welfare, or the environment. The term "regulated substance" includes:

- 1. Any substance defined in §101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 USC §9601 et seq.), but not any substance regulated as a hazardous waste under subtitle C of the Resource Conservation and Recovery Act (RCRA) of 1976 (42 USC §6901 et seq.); and
- 2. Petroleum, including crude oil or any fraction thereof, that is liquid at standard conditions of temperature and pressure (60°F and 14.7 pounds per square inch absolute). The term "regulated

substance" includes but is not limited to petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons derived from crude oil through processes of separation, conversion, upgrading, and finishing, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

"Release" means any spilling, leaking, emitting, discharging, escaping, leaching or disposing from an UST into ground water, surface water or subsurface soils.

"Release detection" means determining whether a release of a regulated substance has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or secondary containment around it.

"Repair" means to restore a tank or UST system component that has caused a release of product from the UST system.

"Residential tank" is a tank located on property used primarily for dwelling purposes.

"SARA" means the Superfund Amendments and Reauthorization Act of 1986.

"Septic tank" is a water-tight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such receptacle is distributed for disposal through the soil and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.

"Storm water or waste water collection system" means piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water run-off resulting from precipitation, or domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of storm water and wastewater does not include treatment except where incidental to conveyance.

"Surface impoundment" is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials) that is not an injection well.

"Tank" is a stationary device designed to contain an accumulation of regulated substances and constructed of nonearthen materials (e.g., concrete, steel, plastic) that provide structural support.

"Underground area" means an underground room, such as a basement, cellar, shaft or vault, providing enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor.

"Underground release" means any belowground release.

"Underground storage tank" or "UST" means any one or combination of tanks (including underground pipes connected thereto) that is used to contain an accumulation of regulated substances, and the volume of which (including the volume of underground pipes connected thereto) is 10% or more beneath the surface of the ground. This term does not include any:

1. Farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;

- 2. Tank used for storing heating oil for consumption on the premises where stored, except for tanks having a capacity of more than 5,000 gallons and used for storing heating oil;
- 3. Septic tank;
- 4. Pipeline facility (including gathering lines) regulated under:
- a. The Natural Gas Pipeline Safety Act of 1968 (49 USC App. 1671, et seq.);
- b. The Hazardous Liquid Pipeline Safety Act of 1979 (49 USC App. 2001, et seq.); or
- c. Which is an intrastate pipeline facility regulated under state laws comparable to the provisions of the law referred to in subdivisions 4 a or 4 b of this definition;
- 5. Surface impoundment, pit, pond, or lagoon;
- 6. Storm water or wastewater collection system;
- 7. Flow-through process tank;
- 8. Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations; or
- 9. Storage tank situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

The term "underground storage tank" or "UST" does not include any pipes connected to any tank which is described in subdivisions 1 through 9 of this definition.

"Upgrade" means the addition or retrofit of some systems such as cathodic protection, lining, or spill and overfill controls to improve the ability of an underground storage tank system to prevent the release of product.

"UST system" or "tank system" means an underground storage tank, connected underground piping, underground ancillary equipment, and containment system, if any.

"Wastewater treatment tank" means a tank that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods.

9VAC25-580-20. Applicability.

A. The requirements of this chapter apply to all owners and operators of an UST system as defined in 9VAC25-580-10 except as otherwise provided in subsections B, C, and D of this section. Any UST system listed in subsection C of this section must meet the requirements of 9VAC25-580-30.

- B. The following UST systems are excluded from the requirements of this chapter:
- 1. Any UST system holding hazardous wastes listed or identified under Subtitle C of the Solid Waste Disposal Act (33 USC §1251 et seq.), or a mixture of such hazardous waste and other regulated substances.

- 2. Any wastewater treatment tank system that is part of a wastewater treatment facility regulated under §402 or §307(b) of the Clean Water Act.
- 3. Equipment or machinery that contains regulated substances for operational purposes such as hydraulic lift tanks and electrical equipment tanks.
- 4. Any UST system whose capacity is 110 gallons or less.
- 5. Any UST system that contains a de minimis concentration of regulated substances.
- 6. Any emergency spill or overflow containment UST system that is expeditiously emptied after use.
- C. Deferrals. Parts II, III, IV, V, and VII of this chapter do not apply to any of the following types of UST systems:
- 1. Wastewater treatment tank systems;
- 2. Any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954 (42 USC 2011 et seq.);
- 3. Any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 10 CFR 50, Appendix A;
- 4. Airport hydrant fuel distribution systems; and
- 5. UST systems with field-constructed tanks.
- D. Deferrals. Part IV does not apply to any UST system that stores fuel solely for use by emergency power generators.

9VAC25-580-30. Interim prohibition for deferred UST systems.

No person may install an UST system listed in subsection C of 9VAC25-580-20 for the purpose of storing regulated substances unless the UST system (whether of single-wall or double-wall construction):

- 1. Will prevent releases due to corrosion or structural failure for the operational life of the UST system;
- 2. Is cathodically protected against corrosion, constructed of noncorrodible material, steel clad with a noncorrodible material, or designed in a manner to prevent the release or threatened release of any stored substance; and
- 3. Is constructed or lined with material that is compatible with the stored substance.

9VAC25-580-40. Permitting and inspection requirements for all UST systems.

In all instances of installation, upgrade, repair and closure where a UST system is constructed, enlarged, altered, repaired or closed all UST systems must be permitted and inspected in accordance with 9VAC25-580-50, 9VAC25-580-60, 9VAC25-580-110, 9VAC25-580-160,

9VAC25-580-170, 9VAC25-580-310 and 9VAC25-580-320.

9VAC25-580-50. Performance standards for new UST systems.

Owners and operators must obtain a permit, the required inspections and a Certificate of Use issued in accordance with the provisions of the Virginia Uniform Statewide Building Code. No UST system shall be installed or placed into use without the owner and operator having obtained the required permit, inspections and Certificate of Use from the building official under the provisions of the Virginia Uniform Statewide Building Code (§36-97 et seq. of the Code of Virginia).

In the case of state-owned facilities the Department of General Services shall function as the building official in accordance with §36-98.1 of the Code of Virginia.

In the case of federal facilities the building official must be contacted. Owners and operators must obtain a permit, the required inspections and a Certificate of Use must be issued in accordance with the provisions of the Virginia Uniform Statewide Building Code.

In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store regulated substances, all owners and operators of new UST systems must meet the following requirements.

1. Tanks.

Each tank must be properly designed and constructed, and any portion underground that routinely contains product must be protected from corrosion, in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below:

a. The tank is constructed of fiberglass-reinforced plastic;

NOTE: The following industry codes may be used to comply with subdivision 1 a of this section: Underwriters Laboratories Standard 1316, "Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products"; Underwriters Laboratories of Canada CAN4-S615-M83, "Standard for Reinforced Plastic Underground Tanks for Petroleum Products"; or American Society of Testing and Materials Standard D4021-86, "Standard Specification for Glass-Fiber-Reinforced Polyester Underground Petroleum Storage Tanks."

- b. The tank is constructed of steel and cathodically protected in the following manner:
- (1) The tank is coated with a suitable dielectric material;
- (2) Field-installed cathodic protection systems are designed by a corrosion expert;
- (3) Impressed current systems are designed to allow determination of current operating status as required in subdivision 3 of 9VAC25-580-90; and
- (4) Cathodic protection systems are operated and maintained in accordance with 9VAC25-580-90; or

NOTE: The following codes and standards may be used to comply with subdivision 1 b of this

section:

- (a) Steel Tank Institute "Specification for STI-P3 System of External Corrosion Protection of Underground Steel Storage Tanks";
- (b) Underwriters Laboratories Standard 1746, "Corrosion Protection Systems for Underground Storage Tanks";
- (c) Underwriters Laboratories of Canada CAN4-S603-M85, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids," and CAN4-G03.1-M85, "Standard for Galvanic Corrosion Protection Systems for Underground Tanks for Flammable and Combustible Liquids," and CAN4-S631-M84, "Isolating Bushings for Steel Underground Tanks Protected with Coatings and Galvanic Systems"; or
- (d) National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and Underwriters Laboratories Standard 58 "Standard for Steel Underground Tanks for Flammable and Combustible Liquids."
- c. The tank is constructed of a steel-fiberglass-reinforced-plastic composite; or

NOTE: The following industry codes may be used to comply with subdivision 1 c of this section: Underwriters Laboratories Standard 1746, "Corrosion Protection Systems for Underground Storage Tanks," or the Association for Composite Tanks ACT-100, "Specification for the Fabrication of FRP Clad Underground Storage Tanks."

- d. The tank construction and corrosion protection are determined by the board to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than subdivisions 1 a through c of this section.
- 2. Piping. The piping that routinely contains regulated substances (e.g., fill pipes, product lines) and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below:
- a. The piping is constructed of fiberglass-reinforced plastic.

NOTE: The following codes and standards may be used to comply with subdivision 2 a of this section:

- (1) Underwriters Laboratories Subject 971, "UL Listed Non-Metal Pipe";
- (2) Underwriters Laboratories Standard 567, "Pipe Connectors for Flammable and Combustible and LP Gas";
- (3) Underwriters Laboratories of Canada Guide ULC-107, "Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids"; and
- (4) Underwriters Laboratories of Canada Standard CAN 4-S633-M81, "Flexible Underground

Hose Connectors."

- b. The piping is constructed of steel and cathodically protected in the following manner:
- (1) The piping is coated with a suitable dielectric material;
- (2) Field-installed cathodic protection systems are designed by a corrosion expert;
- (3) Impressed current systems are designed to allow determination of current operating status as required in subdivision 3 of 9VAC25-580-90; and
- (4) Cathodic protection systems are operated and maintained in accordance with 9VAC25-580-90; or

NOTE: The following codes and standards may be used to comply with subdivision 2 b of this section:

- (a) National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code";
- (b) American Petroleum Institute Publication 1615, "Installation of Underground Petroleum Storage Systems";
- (c) American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems"; and
- (d) National Association of Corrosion Engineers Standard RP-01-69, "Control of External Corrosion on Submerged Metallic Piping Systems."
- c. The piping construction and corrosion protection are determined by the board to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in subdivisions 2 a through b of this section.
- 3. Spill and overfill prevention equipment.
- a. Except as provided in subdivision 3 b of this section, to prevent spilling and overfilling associated with product transfer to the UST system, owners and operators must use the following spill and overfill prevention equipment:
- (1) Spill prevention equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe (for example, a spill catchment basin); and
- (2) Overfill prevention equipment that will:
- (a) Automatically shut off flow into the tank when the tank is no more than 95% full; or
- (b) Alert the transfer operator when the tank is no more than 90% full by restricting the flow into the tank or triggering a high-level alarm; or:
- (c) Restrict the flow 30 minutes prior to overfilling, alert the operator with a high level alarm one

minute before overfilling, or automatically shut off flow into the tank so that none of the fittings located on top of the tank are exposed to product due to overfilling.

- b. Owners and operators are not required to use the spill and overfill prevention equipment specified in subdivision 3 a of this section if:
- (1) Alternative equipment is used that is determined by the board to be no less protective of human health and the environment than the equipment specified in subdivision 3 a (1) or (2) of this section; or
- (2) The UST system is filled by transfers of no more than 25 gallons at one time.
- 4. Installation. All tanks and piping must be properly installed in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and in accordance with the manufacturer's instructions.

NOTE: Tank and piping system installation practices and procedures described in the following codes may be used to comply with the requirements of subdivision 4 of this section:

- a. American Petroleum Institute Publication 1615, "Installation of Underground Petroleum Storage System";
- b. Petroleum Equipment Institute Publication RP100, "Recommended Practices for Installation of Underground Liquid Storage Systems"; or
- c. American National Standards Institute Standard B31.3, "Petroleum Refinery Piping," and American National Standards Institute Standard B31.4 "Liquid Petroleum Transportation Piping System."

NOTE: These industry codes require that prior to bringing the system into use the following tests be performed: (i) tank tightness test (air); (ii) pipe tightness test (air or hydrostatic); and (iii) precision system test in accordance with NFPA 329 (detection of .05 gal/hr leak rate).

- 5. Certification of installation. All owners and operators must ensure that one or more of options a through d of the following methods of certification, testing, or inspection is performed, and a Certificate of Use has been issued in accordance with the provisions of the Virginia Uniform Statewide Building Code to demonstrate compliance with subdivision 4 of this section. A certification of compliance on the UST Notification form must be submitted to the board in accordance with 9VAC25-580-70.
- a. The installer has been certified by the tank and piping manufacturers;
- b. The installation has been inspected and certified by a registered professional engineer with education and experience in UST system installation;
- c. All work listed in the manufacturer's installation checklists has been completed; or
- d. The owner and operator have complied with another method for ensuring compliance with subdivision 4 of this section that is determined by the board to be no less protective of human health and the environment.

6. Release detection. Release detection shall be provided in accordance with Part IV of this chapter.

9VAC25-580-60. Upgrading of existing UST systems.

Owners and operators must obtain a permit and the required inspections in accordance with the provisions of the Virginia Uniform Statewide Building Code (§36.97 et seq. of the Code of Virginia).

A permit from the building official must be obtained prior to upgrading any UST system. No upgraded UST system shall be placed into use unless and until the system is inspected in accordance with the provisions of the Virginia Uniform Statewide Building Code (§36.97 et seq. of the Code of Virginia).

In the case of state-owned facilities, the Department of General Services shall function as the building official in accordance with §36-98.1 of the Code of Virginia.

In the case of federal facilities the building official must be contacted. Owners and operators must obtain a permit and the required inspections in accordance with the provisions of the Virginia Uniform Statewide Building Code (§36.97 et seq. of the Code of Virginia).

- 1. Alternatives allowed. Not later than December 22, 1998, all existing UST systems must comply with one of the following requirements:
- a. New UST system performance standards under 9VAC25-580-50;
- b. The upgrading requirements in subsections 2 through 5 of this section; or
- c. Closure requirements under Part VII of this chapter, including applicable requirements for corrective action under Part VI.
- 2. Tank upgrading requirements. Steel tanks must be upgraded to meet one of the following requirements in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory:
- a. Interior lining. A tank may be upgraded by internal lining if:
- (1) The lining is installed in accordance with the requirements of 9VAC25-580-110, and
- (2) Within 10 years after lining, and every five years thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications.
- b. Cathodic protection. A tank may be upgraded by cathodic protection if the cathodic protection system meets the requirements of 9VAC25-580-50 1 b (2), (3), and (4) and the integrity of the tank is ensured using one of the following methods:
- (1) The tank is internally inspected and assessed to ensure that the tank is structurally sound and free of corrosion holes prior to installing the cathodic protection system; or
- (2) The tank has been installed for less than 10 years and is monitored monthly for releases in

accordance with subsections 4 through 8 of 9VAC25-580-160; or

- (3) The tank has been installed for less than 10 years and is assessed for corrosion holes by conducting two tightness tests that meet the requirements of subsection C of 9VAC25-580-160. The first tightness test must be conducted prior to installing the cathodic protection system. The second tightness test must be conducted between three and six months following the first operation of the cathodic protection system; or
- (4) The tank is assessed for corrosion holes by a method that is determined by the board to prevent releases in a manner that is no less protective of human health and the environment than subdivisions 2 b (1) through (3) of this section.
- c. Internal lining combined with cathodic protection. A tank may be upgraded by both internal lining and cathodic protection if:
- (1) The lining is installed in accordance with the requirements of 9VAC25-580-110; and
- (2) The cathodic protection system meets the requirements of subdivisions 1 b (2), (3), and (4) of 9VAC25-580-50.

NOTE: The following codes and standards may be used to comply with this section:

- (a) American Petroleum Institute Publication 1631, "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks";
- (b) National Leak Prevention Association Standard 631, "Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection";
- (c) National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems"; and
- (d) American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems."
- 3. Piping upgrading requirements. Metal piping that routinely contains regulated substances and is in contact with the ground must be cathodically protected in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and must meet the requirements of subdivisions 2 b (2), (3) and (4) of 9VAC25-580-50.

NOTE: The codes and standards listed in the note following subdivision 2 b of 9VAC25-580-50 may be used to comply with this requirement.

- 4. Spill and overfill prevention equipment. To prevent spilling and overfilling associated with product transfer to the UST system, all existing UST systems must comply with new UST system spill and overfill prevention equipment requirements specified in subsection 3 of 9VAC25-580-50.
- E. Release detection. Release detection shall be provided in accordance with Part IV of this chapter.

9VAC25-580-70. Notification requirements.

A. Any owner who brings an underground storage tank system into use after May 8, 1986, must within 30 days of bringing such tank into use, submit, in the form prescribed in APPENDIX I of this chapter, a notice of existence of such tank system to the board. Any change in ownership, tank status (e.g., temporarily/permanently closed out), tank/piping systems (e.g., upgrades such as addition of corrosion protection, internal lining, release detection), substance stored (e.g., change from petroleum to hazardous substance) requires the UST owner to submit an amended notification form within 30 days after such change/upgrade occurs or is brought into use. Owners may provide notice for several tanks using one notification form, but owners with tanks located at more than one place of operation must file a separate notification form for each separate place of operation.

B. Under Virginia UST notification requirements effective July 1, 1987, owners of property who have actual knowledge of underground storage tanks on such property that were taken out of service before January 1, 1974, yet still in the ground, must notify the board on the notification form.

NOTE: Under the federal UST Notification Program, owners and operators of UST systems that were in the ground on or after May 8, 1986, unless taken out of operation on or before January 1, 1974, were required to notify the board in accordance with the Hazardous and Solid Waste Amendments of 1984, P.L. 98-616 (42 USC §9603), on a form published by EPA on November 8, 1985, (50 FR 46602) unless notice was given pursuant to §103(c) of CERCLA. Owners and operators who have not complied with the notification requirements may use portions I through VI of the notification form contained in APPENDIX I of this chapter.

- C. Notices required to be submitted under subsection A of this section must provide all of the information in Sections I through VI of the prescribed form (APPENDIX I) for each tank for which notice must be given. Notices for tanks installed after December 22, 1988, must also provide all of the information in Section VII of the prescribed form (APPENDIX I) for each tank for which notice must be given.
- D. All owners and operators of new UST systems must certify in the notification form compliance with the following requirements:
- 1. Installation of tanks and piping under subsection 5 of 9VAC25-580-50;
- 2. Cathodic protection of steel tanks and piping under subsections 1 and 2 of 9VAC25-580-50;
- 3. Financial responsibility under financial responsibility regulations promulgated by the board.
- 4. Release detection under 9VAC25-580-140 and 9VAC25-580-150.
- E. All owners and operators of new UST systems must ensure that the installer certifies in the notification form that the methods used to install the tanks and piping comply with the requirements in subsection 4 of 9VAC25-580-50.
- F. Beginning October 24, 1988, any person who sells a tank intended to be used as an underground storage tank must notify the purchaser of such tank of the owner's notification

obligations under subsection A of this section. The statement provided in APPENDIX II of this chapter may be used to comply with this requirement.

9VAC25-580-80. Spill and overfill control.

A. Owners and operators must ensure that releases due to spilling or overfilling do not occur. The owner and operator must ensure that the volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling.

NOTE: The transfer procedures described in National Fire Protection Association Publication 385 may be used to comply with subsection A of this section. Further guidance on spill and overfill prevention appears in American Petroleum Institute Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets," and National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code."

B. The owner and operator must report, investigate, and clean up any spills and overfills in accordance with 9VAC25-580-220.

9VAC25-580-90. Operation and maintenance of corrosion protection.

All owners and operators of steel UST systems with corrosion protection must comply with the following requirements to ensure that releases due to corrosion are prevented for as long as the UST system is used to store regulated substances:

- 1. All corrosion protection systems must be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contain regulated substances and are in contact with the ground.
- 2. All UST systems equipped with cathodic protection systems must be inspected for proper operation by a qualified cathodic protection tester in accordance with the following requirements:
- a. Frequency. All cathodic protection systems must be tested within six months of installation and at least every three years thereafter; and
- b. Inspection criteria. The criteria that are used to determine that cathodic protection is adequate as required by this section must be in accordance with a code of practice developed by a nationally recognized association.

NOTE: National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," may be used to comply with subdivision 2 b of this section.

- 3. UST systems with impressed current cathodic protection systems must also be inspected every 60 days to ensure the equipment is running properly. These systems only provide the necessary corrosion protection when in continuous operation. Such equipment shall be installed so that it cannot be inadvertently shut off.
- 4. For UST systems using cathodic protection, records of the operation of the cathodic protection

must be maintained (in accordance with 9VAC25-580-120) to demonstrate compliance with the performance standards in this section. These records must provide the following:

- a. The results of the last three inspections required in subdivision 3 of this section; and
- b. The results of testing from the last two inspections required in subdivision 2 of this section.

9VAC25-580-100. Compatibility.

Owners and operators must use an UST system made of or lined with materials that are compatible with the substance stored in the UST system.

NOTE: Owners and operators storing alcohol blends may use the following codes to comply with the requirements of this section:

- 1. American Petroleum Institute Publication 1626, "Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations"; and
- 2. American Petroleum Institute Publication 1627, "Storage and Handling of Gasoline-Methanol/Cosolvent Blends at Distribution Terminals and Service Stations."

9VAC25-580-110. Repairs allowed.

Owners and operators must obtain a permit and the required inspections in accordance with the provisions of the Virginia Uniform Statewide Building Code (§36-97 et seq. of the Code of Virginia).

A permit from the building official must be obtained prior to repairing any UST system. No repaired UST system shall be placed into use unless and until the system is inspected in accordance with the provisions of the Virginia Uniform Statewide Building Code (§36-97 et seq. of the Code of Virginia).

In the case of state-owned facilities the Department of General Services shall function as the building official in accordance with §36-98.1 of the Code of Virginia.

In the case of federal facilities the building official must be contacted. Owners and operators must obtain a permit and the required inspections in accordance with the provisions of the Virginia Uniform Statewide Building Code (§36-97 et seq. of the Code of Virginia).

Owners and operators of UST systems must ensure that repairs will prevent releases due to structural failure or corrosion as long as the UST system is used to store regulated substances. The repairs must meet the following requirements:

1. Repairs to UST systems must be properly conducted in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.

NOTE: The following codes and standards may be used to comply with subdivision 1 of this section: National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code"; American Petroleum Institute Publication 2200, "Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines"; American Petroleum Institute Publication 1631, "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks";

and National Leak Prevention Association Standard 631, "Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection."

- 2. Repairs to fiberglass-reinforced plastic tanks may be made by the manufacturer's authorized representatives or in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.
- 3. Metal pipe sections and fittings that have released product as a result of corrosion or other damage must be replaced. Fiberglass pipes and fittings may be repaired in accordance with the manufacturer's specifications.
- 4. Repaired tanks and piping must be tightness tested in accordance with subsection 3 of 9VAC25-580-160 and subdivision 2 of 9VAC25-580-170 within 30 days following the date of the completion of the repair except as provided in subdivisions 4 a through c of this section:
- a. The repaired tank is internally inspected in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory;
- b. The repaired portion of the UST system is monitored monthly for releases in accordance with a method specified in subsections 4 through 8 of 9VAC25-580-160; or
- c. Another test method is used that is determined by the board to be no less protective of human health and the environment than those listed above.
- 5. Within six months following the repair of any cathodically protected UST system, the cathodic protection system must be tested in accordance with subdivisions 2 and 3 of 9VAC25-580-90 to ensure that it is operating properly.
- 6. UST system owners and operators must maintain records of each repair for the remaining operating life of the UST system that demonstrate compliance with the requirements of this section.

9VAC25-580-120. Reporting and recordkeeping.

Owners and operators of UST systems must cooperate fully with inspections, monitoring and testing conducted by the board, as well as requests for document submission, testing, and monitoring by the owner or operator pursuant to §9005 of Subtitle I of the Resource Conservation and Recovery Act, as amended.

- 1. Reporting. Owners and operators must submit the following information to the board:
- a. Notification for all UST systems (9VAC25-580-70), which includes certification of installation for new UST systems (9VAC25-580-50 5),
- b. Reports of all releases including suspected releases (9VAC25-580-190), spills and overfills (9VAC25-580-220), and confirmed releases (9VAC25-580-240);
- c. Corrective actions planned or taken including initial abatement measures (9VAC25-580-250), site characterization (9VAC25-580-260), free product removal (9VAC25-580-270), and

corrective action plan (9VAC25-580-280); and

- d. An amended notification form must be submitted within 30 days after permanent closure or change-in-service (9VAC25-580-320).
- 2. Recordkeeping. Owners and operators must maintain the following information:
- a. Documentation of operation of corrosion protection equipment (9VAC25-580-90);
- b. Documentation of UST system repairs (9VAC25-580-110 6);
- c. Recent compliance with release detection requirements (9VAC25-580-180); and
- d. Results of the site investigation conducted at permanent closure (9VAC25-580-350).
- 3. Availability and maintenance of records. Owners and operators must keep the records required either:
- a. At the UST site and immediately available for inspection by the board; or
- b. At a readily available alternative site and be provided for inspection to the board upon request.

In the case of permanent closure records required under 9VAC25-580-350, owners and operators are also provided with the additional alternative of mailing closure records to the board if they cannot be kept at the site or an alternative site as indicated above.

9VAC25-580-130. General requirements for all petroleum and hazardous substance UST systems.

- A. Owners and operators of new and existing UST systems must provide a method, or combination of methods, of release detection that:
- 1. Can detect a release from any portion of the tank and the connected underground piping that routinely contains product;
- 2. Is installed, calibrated, operated, and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition; and
- 3. Meets the performance requirements in 9VAC25-580-160 or 9VAC25-580-170, with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. In addition, methods used after December 22, 1990, except for methods permanently installed prior to that date, must be capable of detecting the leak rate or quantity specified for that method in subsections 2, 3 and 4 of 9VAC25-580-160 or subdivisions 1 and 2 of 9VAC25-580-170 with a probability of detection of 0.95 and a probability of false alarm of 0.05.
- B. When a release detection method operated in accordance with the performance standards in 9VAC25-580-160 or 9VAC25-580-170 indicates a release may have occurred, owners and operators must notify the board in accordance with Part V of this chapter.

C. Owners and operators of all UST systems must comply with the release detection requirements of this part by December 22 of the year listed in the following table:

SCHEDULE FOR PHASE-IN OF RELEASE DETECTION

Year system was	Year when release detection is required (by				
installed	December 22 of the year indicated)				
	1989	1990	1991	1992	1993
Before 1965 or date	RD *	P			
unknown					
1965-1969		P/RD			
1970-1974		Р	RD		
1975-1979		Р		RD	
1980-1988		Р			RD

New tanks (after December 22, 1988) immediately upon installation.

P = Must begin release detection for all pressurized piping in accordance with subdivision 2 a of 9VAC25-580-140.

- RD = Must begin release detection for tanks and suction piping in accordance with subsection 1 and subdivision 2 b of 9VAC25-580-140, and 9VAC25-580-150.
- * = Heating oil tanks greater than 5,000 gallons capacity installed before 1965 or date unknown are allowed until December 22, 1990, to comply with this requirement.
- D. Any existing UST system that cannot apply a method of release detection that complies with the requirements of this part must complete the closure procedures in Part VII by the date on which release detection is required for that UST system under subsection C of this section.

9VAC25-580-140. Requirements for petroleum UST systems.

Owners and operators of petroleum UST systems must provide release detection for tanks and

piping as follows:

- 1. Tanks. Tanks must be monitored at least every 30 days for releases using one of the methods listed in subsections 4 through 8 of 9VAC25-580-160 except that:
- a. UST systems that meet the performance standards in subsections 1 through 5 of 9VAC25-580-50 or subsections 1 through 4 of 9VAC25-580-60 may use both monthly inventory control requirements in subsection 1 or 2 of 9VAC25-580-160, and tank tightness testing (conducted in accordance with subsection 3 of 9VAC25-580-160 at least every five years until December 22, 1998, or until 10 years after the tank is installed or upgraded under subsection 2 of 9VAC25-580-60, whichever is later;
- b. UST systems that do not meet the performance standards in 9VAC25-580-50 or 9VAC25-580-60 may use monthly inventory controls (conducted in accordance with subsection 1 or 2 of 9VAC25-580-160) and annual tank tightness testing (conducted in accordance with subsection 3 of 9VAC25-580-160) until December 22, 1998, when the tank must be upgraded under 9VAC25-580-60 or permanently closed under 9VAC25-580-320; and
- c. Tanks with capacity of 550 gallons or less may use weekly tank gauging (conducted in accordance with subsection 2 of 9VAC25-580-160).
- 2. Piping. Underground piping that routinely contains regulated substances must be monitored for releases in a manner that meets one of the following requirements:
- a. Pressurized piping. Underground piping that conveys regulated substances under pressure must:
- (1) Be equipped with an automatic line leak detector conducted in accordance with subdivision 1 of 9VAC25-580-170; and
- (2) Have an annual line tightness test conducted in accordance with subdivision 2 of 9VAC25-580-170 or have monthly monitoring conducted in accordance with subdivision 3 of 9VAC25-580-170.
- b. Suction piping. Underground piping that conveys regulated substances under suction must either have a line tightness test conducted at least every three years and in accordance with subdivision 2 of 9VAC25-580-170, or use a monthly monitoring method conducted in accordance with subdivision 3 of 9VAC25-580-170. No release detection is required for suction piping that is designed and constructed to meet the following standards:
- (1) The below-grade piping operates at less than atmospheric pressure;
- (2) The below-grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released;
- (3) Only one check valve is included in each suction line;
- (4) The check valve is located directly below and as close as practical to the suction pump; and
- (5) A method is provided that allows compliance with subdivisions 2 b (2) through (4) of this

section to be readily determined.

9VAC25-580-150. Requirements for hazardous substance UST systems.

Owners and operators of hazardous substance UST systems must provide release detection that meets the following requirements:

- 1. Release detection at existing UST systems must meet the requirements for petroleum UST systems in 9VAC25-580-140. By December 22, 1998, all existing hazardous substance UST systems must meet the release detection requirements for new systems in subdivision 2 of this section.
- 2. Release detection at new hazardous substance UST systems must meet the following requirements:
- a. Secondary containment systems must be designed, constructed and installed to:
- (1) Contain regulated substances released from the tank system until they are detected and removed;
- (2) Prevent the release of regulated substances to the environment at any time during the operational life of the UST system; and
- (3) Be checked for evidence of a release at least every 30 days.

NOTE: The provisions of 40 CFR 265.193, Containment and Detection of Releases, may be used to comply with these requirements.

- b. Double-walled tanks must be designed, constructed, and installed to:
- (1) Contain a release from any portion of the inner tank within the outer wall; and
- (2) Detect the failure of the inner wall.
- c. External liners (including vaults) must be designed, constructed, and installed to:
- (1) Contain 100% of the capacity of the largest tank within its boundary;
- (2) Prevent the interference of precipitation or ground-water intrusion with the ability to contain or detect a release of regulated substances; and
- (3) Surround the tank completely (i.e., it is capable of preventing lateral as well as vertical migration of regulated substances).
- d. Underground piping must be equipped with secondary containment that satisfies the requirements of subdivision 2 a of this section (e.g., trench liners, jacketing of double-walled pipe). In addition, underground piping that conveys regulated substances under pressure must be equipped with an automatic line leak detector in accordance with subdivision 1 of 9VAC25-580-170.
- e. Other methods of release detection may be used if owners and operators:

- (1) Demonstrate to the board that an alternate method can detect a release of the stored substance as effectively as any of the methods allowed in subsections 2 through 8 of 9VAC25-580-160 can detect a release of petroleum;
- (2) Provide information to the board on effective corrective action technologies, health risks, and chemical and physical properties of the stored substance, and the characteristics of the UST site; and
- (3) Obtain approval from the board to use the alternate release detection method before the installation and operation of the new UST system.

9VAC25-580-160. Methods of release detection for tanks.

Owners and operators must obtain a permit and the required inspections in accordance with 9VAC25-580-50 or 9VAC25-580-60 for the methods of release detection contained in subsections 4 through 8 of 9VAC25-580-160.

Each method of release detection for tanks used to meet the requirements of 9VAC25-580-140 must be conducted in accordance with the following and be designed to detect releases at the earliest possible time for the specific method chosen:

- 1. Inventory control. Product inventory control (or another test of equivalent performance) must be conducted monthly to detect a release of at least 1.0% of flow-through plus 130 gallons on a monthly basis in the following manner:
- a. Inventory volume measurements for regulated substance inputs, withdrawals, and the amount still remaining in the tank are recorded each operating day;
- b. The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch;
- c. The regulated substance inputs are reconciled with delivery receipts by measurement of the tank inventory volume before and after delivery;
- d. Deliveries are made through a drop tube that extends to within one foot of the tank bottom;
- e. Product dispensing is metered and recorded according to regulations of the Bureau of Weights and Measures of the Virginia Department of Agriculture and Consumer Services for meter calibration within their jurisdiction; for all other product dispensing meter calibration, an accuracy of six cubic inches for every five gallons of product withdrawn is required; and
- f. The measurement of any water level in the bottom of the tank is made to the nearest one-eighth of an inch at least once a month.

NOTE: Practices described in the American Petroleum Institute Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets," may be used, where applicable, as guidance in meeting the requirements of this subsection.

- 2. Manual tank gauging. Manual tank gauging must meet the following requirements:
- a. Tank liquid level measurements are taken at the beginning and ending of a period of at least 36

hours during which no liquid is added to or removed from the tank;

- b. Level measurements are based on an average of two consecutive stick readings at both the beginning and ending of the period;
- c. The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest ⅛ of an inch;
- d. A leak is suspected and subject to the requirements of Part V if the variation between beginning and ending measurements exceeds the weekly or monthly standards in the following table:

		Monthly
	Weekly	standard
Nominal	standard	(average of
tank capacity	(one test)	four tests)
550 gallons or less	10 gallons	5 gallons
551-1,000 gallons	13 gallons	7 gallons
1,001-2,000 gallons	26 gallons	13 gallons

- e. Only tanks of 550 gallons or less nominal capacity may use this as the sole method of release detection. Tanks of 551 to 2,000 gallons may use the method in place of manual inventory control in subsection 1 of 9VAC25-580-160. Tanks of greater than 2,000 gallons nominal capacity may not use this method to meet the requirements of this part.
- 3. Tank tightness testing. Tank tightness testing (or another test of equivalent performance) must be capable of detecting a 0.1 gallon per hour leak rate from any portion of the tank that routinely contains product while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.
- 4. Automatic tank gauging. Equipment for automatic tank gauging that tests for the loss of product and conducts inventory control must meet the following requirements:
- a. The automatic product level monitor test can detect a 0.2 gallon per hour leak rate from any portion of the tank that routinely contains product; and
- b. Inventory control (or another test of equivalent performance) is conducted in accordance with the requirements of subsection 1 of 9VAC25-580-160.
- 5. Vapor monitoring. Testing or monitoring for vapors within the soil gas of the excavation zone must meet the following requirements:
- a. The materials used as backfill are sufficiently porous (e.g., gravel, sand, crushed rock) to readily allow diffusion of vapors from releases into the excavation area;

- b. The stored regulated substance, or a tracer compound placed in the tank system, is sufficiently volatile (e.g., gasoline) to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the tank;
- c. The measurement of vapors by the monitoring device is not rendered inoperative by the ground water, rainfall, or soil moisture or other known interferences so that a release could go undetected for more than 30 days;
- d. The level of background contamination in the excavation zone will not interfere with the method used to detect releases from the tank;
- e. The vapor monitors are designed and operated to detect any significant increase in concentration above background of the regulated substance stored in the tank system, a component or components of that substance, or a tracer compound placed in the tank system;
- f. In the UST excavation zone, the site is assessed to ensure compliance with the requirements in subdivisions 5 a through d of this section and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the tank that routinely contains product; and
- g. Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.
- 6. Ground water monitoring. Testing or monitoring for liquids on the ground water must meet the following requirements:
- a. The regulated substance stored is not readily miscible in water and has a specific gravity of less than one;
- b. Ground water is never more than 20 feet from the ground surface and the hydraulic conductivity of the soils between the UST system and the monitoring wells or devices is not less than 0.01 cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials);
- c. The slotted portion of the monitoring well casing must be designed to prevent migration of natural soils or filter pack into the well and to allow entry of regulated substance on the water table into the well under both high and low ground water conditions;
- d. Monitoring wells shall be sealed from the ground surface to the top of the filter pack;
- e. Monitoring wells or devices intercept the excavation zone or are as close to it as is technically feasible:
- f. The continuous monitoring devices or manual methods used can detect the presence of at least ⅛ of an inch of free product on top of the ground water in the monitoring wells;
- g. Within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements in subdivisions 6 a through e of this section and to establish the number and positioning of monitoring wells or devices that will detect releases from any portion of the tank that routinely contains product; and

- h. Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.
- 7. Interstitial monitoring. Interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it may be used, but only if the system is designed, constructed and installed to detect a leak from any portion of the tank that routinely contains product and also meets one of the following requirements:
- a. For double-walled UST systems, the sampling or testing method can detect a release through the inner wall in any portion of the tank that routinely contains product;

NOTE: The provisions outlined in the Steel Tank Institute's "Standard for Dual Wall Underground Storage Tanks" may be used as guidance for aspects of the design and construction of underground steel double-walled tanks.

- b. For UST systems with a secondary barrier within the excavation zone, the sampling or testing method used can detect a release between the UST system and the secondary barrier;
- (1) The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (at least 10-6 cm/sec for the regulated substance stored) to direct a release to the monitoring point and permit its detection;
- (2) The barrier is compatible with the regulated substance stored so that a release from the UST system will not cause a deterioration of the barrier allowing a release to pass through undetected;
- (3) For cathodically protected tanks, the secondary barrier must be installed so that it does not interfere with the proper operation of the cathodic protection system;
- (4) The ground water, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a release could go undetected for more than 30 days;
- (5) The site is assessed to ensure that the secondary barrier is always above the ground water and not in a 25-year flood plain, unless the barrier and monitoring designs are for use under such conditions; and,
- (6) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.
- c. For tanks with an internally fitted liner, an automated device can detect a release between the inner wall of the tank and the liner, and the liner is compatible with the substance stored.
- 8. Other methods. Any other type of release detection method, or combination of methods, can be used if:
- a. It can detect a 0.2 gallon per hour leak rate or a release of 150 gallons within a month with a probability of detection of 0.95 and a probability of false alarm of 0.05; or
- b. The board may approve another method if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in subsections 3 through 8 of this section. In comparing methods, the board shall consider the size of release that the method can detect and the frequency and reliability with which it can be detected. If the method

is approved, the owner and operator must comply with any conditions imposed by the board on its use to ensure the protection of human health and the environment.

9VAC25-580-170. Methods of release detection for piping.

Owners and operators must obtain a permit and the required inspections in accordance with 9VAC25-580-50 or 9VAC25-580-60 for the methods of release detection contained in subdivisions 1 through 3 of 9VAC25-580-170.

Each method of release detection for piping used to meet the requirements of 9VAC25-580-140 must be conducted in accordance with the following:

- 1. Automatic line leak detectors. Methods which alert the operator to the presence of a leak by restricting or shutting off the flow of regulated substances through piping or triggering an audible or visual alarm may be used only if they detect leaks of three gallons per hour at 10 pounds per square inch line pressure within one hour. An annual test of the operation of the leak detector must be conducted in accordance with the manufacturer's requirements.
- 2. Line tightness testing. A periodic test of piping may be conducted only if it can detect a 0.1 gallon per hour leak rate at one and one-half times the operating pressure.
- 3. Applicable tank methods. Any of the methods in subsections 5 through 8 of 9VAC25-580-160 may be used if they are designed to detect a release from any portion of the underground piping that routinely contains regulated substances.

9VAC25-580-180. Release detection recordkeeping.

All UST system owners and operators must maintain records in accordance with 9VAC25-580-120 demonstrating compliance with all applicable requirements of this part. These records must include the following:

- 1. All written performance claims pertaining to any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer, must be maintained for five years from the date of installation or as long as the method of release detection is used, whichever is greater;
- 2. The results of any sampling, testing, or monitoring must be maintained for at least one year, or for another reasonable period of time determined by the board, except that the results of tank tightness testing conducted in accordance with subsection 3 of 9VAC25-580-160 must be retained until the next test is conducted; and
- 3. Written documentation of all calibration, maintenance, and repair of release detection equipment permanently located on-site must be maintained for at least one year after the servicing work is completed or for such longer period as may be required by the board. Any schedules of required calibration and maintenance provided by the release detection equipment manufacturer must be retained for five years from the date of installation.

9VAC25-580-190. Reporting of suspected releases.

Owners and operators of UST systems must report to the board within 24 hours and follow the

procedures in 9VAC25-580-210 for any of the following conditions:

- 1. The discovery by owners and operators or others of released regulated substances at the UST site or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface water);
- 2. Unusual operating conditions observed by owners and operators (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the UST system, or an unexplained presence of water in the tank), unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced;
- 3. Monitoring results from a release detection method required under 9VAC25-580-140 and 9VAC25-580-150 that indicate a release may have occurred unless:
- a. The monitoring device is found to be defective, and is immediately repaired, recalibrated or replaced, and additional monitoring does not confirm the initial result; or
- b. In the case of inventory control, a second month of data or in the case of manual tank gauging, a second week or month as prescribed in the chart under subdivision 2 d of 9VAC25-580-160 does not confirm the initial result.

9VAC25-580-200. Investigation due to off-site impacts.

When required by the board, owners and operators of UST systems must follow the procedures in 9VAC25-580-210 to determine if the UST system is the source of off-site impacts. These impacts include the discovery of regulated substances (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and state waters) that has been observed by the board or brought to its attention by another party.

9VAC25-580-210. Release investigation and confirmation steps.

Unless corrective action is initiated in accordance with Part VI, owners and operators must immediately investigate and confirm all suspected releases of regulated substances requiring reporting under 9VAC25-580-190 within seven days, or another reasonable time period specified by the board upon written request made and approved within seven days after reporting of the suspected release.

The following steps are required for release investigation and confirmation:

- 1. System test. Owners and operators must conduct tests (according to the requirements for tightness testing in subsection 3 of 9VAC25-580-160 and subdivision 2 of 9VAC25-580-170) that determine whether a leak exists in that portion of the tank that routinely contains product, or the attached delivery piping, or both.
- a. Owners and operators must repair, replace or upgrade the UST system, and begin corrective action in accordance with Part VI if the test results for the system, tank, or delivery piping indicate that a leak exists.
- b. Further investigation is not required if the test results for the system, tank, and delivery piping do not indicate that a leak exists and if environmental contamination is not the basis for

suspecting a release.

- c. Owners and operators must conduct a site check as described in subdivision 2 of this section if the test results for the system, tank, and delivery piping do not indicate that a leak exists but environmental contamination is the basis for suspecting a release.
- 2. Site check. Owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the nature of the stored substance, the type of initial alarm or cause for suspicion, the type of backfill, the depth of ground water, and other factors appropriate for identifying the presence and source of the release. Samples shall be tested according to established EPA analytical methods or methods approved by the board.
- a. If the test results for the excavation zone or the UST site indicate that a release has occurred, owners and operators must begin corrective action in accordance with Part VI of this chapter
- b. If the test results for the excavation zone or the UST site do not indicate that a release has occurred, further investigation is not required.

9VAC25-580-220. Reporting and cleanup of spills and overfills.

- A. Owners and operators of UST systems must contain and immediately clean up a spill or overfill and report to the board within 24 hours and begin corrective action in accordance with Part VI of this chapter in the following cases:
- 1. Spill or overfill of petroleum that results in a release to the environment that exceeds 25 gallons or that causes a sheen on nearby surface water; and
- 2. Spill or overfill of a hazardous substance that results in a release to the environment that equals or exceeds its reportable quantity under CERCLA (40 CFR Part 302).
- B. Owners and operators of UST systems must contain and immediately clean up a spill or overfill of petroleum that is less than 25 gallons and a spill or overfill of a hazardous substance that is less than the reportable quantity. If cleanup cannot be accomplished within 24 hours owners and operators must immediately notify the board.

NOTE: Pursuant to 40 CFR §§302.6 and 355.40, a release of a hazardous substance equal to or in excess of its reportable quantity must also be reported immediately (rather than within 24 hours) to the National Response Center under §§102 and 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 USC §§9602 and 9603) and to appropriate state and local authorities under Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986.

9VAC25-580-230, General.

Owners and operators of petroleum or hazardous substance UST systems must, in response to a confirmed release from the UST system, comply with the requirements of this part except for USTs excluded under subsection B of 9VAC25-580-20 and UST systems subject to RCRA Subtitle C corrective action requirements under §3004(u) of the Resource Conservation and

Recovery Act, as amended.

9VAC25-580-240. Initial response.

Upon confirmation of a release in accordance with 9VAC25-580-210 or after a release from the UST system is identified in any other manner, owners and operators must perform the following initial response actions within 24 hours of a release:

- 1. Report the release to the board (e.g., by telephone or electronic mail);
- 2. Take immediate action to prevent any further release of the regulated substance into the environment; and
- 3. Identify and mitigate fire, explosion, and vapor hazards.

9VAC25-580-250. Initial abatement measures and site check.

- A. Unless directed to do otherwise by the board, owners and operators must perform the following abatement measures:
- 1. Remove as much of the regulated substance from the UST system as is necessary to prevent further release to the environment;
- 2. Visually inspect any aboveground releases or exposed below ground releases and prevent further migration of the released substance into surrounding soils and ground water;
- 3. Continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that have migrated from the UST excavation zone and entered into subsurface structures (such as sewers or basements);
- 4. Remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the owner and operator must comply with applicable state and local requirements;
- 5. Measure for the presence of a release where contamination is most likely to be present at the UST site, unless the presence and source of the release have been confirmed in accordance with the site check required by subdivision 2 of 9VAC25-580-210 or the closure site assessment of subsection A of 9VAC25-580-330. In selecting sample types, sample locations, and measurement methods, the owner and operator must consider the nature of the stored substance, the type of backfill, depth to ground water and other factors as appropriate for identifying the presence and source of the release. Samples shall be tested according to established EPA analytical methods or methods approved the board; and
- 6. Investigate to determine the possible presence of free product, and begin free product removal as soon as practicable and in accordance with 9VAC25-580-270.
- B. Within 20 days after release confirmation, or within another reasonable period of time determined by the board upon written request made and approved within 20 days after release confirmation, owners and operators must submit a report to the board summarizing the initial

abatement steps taken under subsection A of this section and any resulting information or data.

9VAC25-580-260. Site characterization.

- A. Owners and operators must assemble information about the site and the nature of the release, including information gained while confirming the release or completing the initial abatement measures in 9VAC25-580-230 and 9VAC25-580-240. This information must include, but is not necessarily limited to, the following:
- 1. Data on the material released and the estimated quantity of release;
- 2. Data from available sources or site investigations concerning the following:
- a. Site assessment to include: data on the physical/chemical properties of the contaminant; nature and quantity and extent of the release; evidence that free product is found to need recovery; geologic/hydrologic site characterization; current and projected land/water uses; water quality; subsurface soil conditions; evidence that contaminated soils are in contact with the ground water; locations of subsurface conduits (e.g., sewers, utility lines, etc.); and climatological conditions. Samples collected for this site characterization shall be tested according to established EPA analytical methods or methods approved by the board;
- b. Risk (exposure) assessment to include: evidence that wells of the area have been affected; use and approximate locations of wells potentially affected by the release; identification of potential and impacted receptors; migration routes; surrounding populations; potential for additional environmental damage;
- c. Remediation assessment to include: potential for remediation and applicability of different remediation technologies to the site.
- 3. Results of the site check required under subdivision A 5 of 9VAC25-580-250; and
- 4. Results of the free product investigations required under subdivision A 6 of 9VAC25-580-250, to be used by owners and operators to determine whether free product must be recovered under 9VAC25-580-270.
- B. Within 45 days of release confirmation or another reasonable period of time determined by the board upon written request made and approved within 45 days after release confirmation, owners and operators must submit the information collected in compliance with subsection A of this section to the board in a manner that demonstrates its applicability and technical adequacy, or in a format and according to the schedule required by the board.

9VAC25-580-270. Free product removal.

At sites where investigations under subdivision A 6 of 9VAC25-580-250 indicate the presence of free product, owners and operators must remove free product to the maximum extent practicable as determined by the board while continuing, as necessary, any actions initiated under 9VAC25-580-240 through 9VAC25-580-260, or preparing for actions required under 9VAC25-580-280 through 9VAC25-580-290. In meeting the requirements of this section, owners and operators must:

- 1. Conduct free product removal in a manner that minimizes the spread of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery by-products in compliance with applicable local, state and federal regulations;
- 2. Use abatement of free product migration as a minimum objective for the design of the free product removal system;
- 3. Handle any flammable products in a safe and competent manner to prevent fires or explosions; and
- 4. Unless directed to do otherwise by the board, prepare and submit to the board, within 45 days after confirming a release, a free product removal report that provides at least the following information:
- a. The name of the persons responsible for implementing the free product removal measures;
- b. The estimated quantity, type, and thickness of free product observed or measured in wells, bore holes, and excavations;
- c. The type of free product recovery system used;
- d. Whether any discharge will take place on-site or off-site during the recovery operation and where this discharge will be located;
- e. The type of treatment applied to, and the effluent quality expected from, any discharge;
- f. The steps that have been or are being taken to obtain necessary permits for any discharge; and
- g. The disposition of the recovered free product.

9VAC25-580-280. Corrective action plan.

- A. At any point after reviewing the information submitted in compliance with 9VAC25-580-240 through 9VAC25-580-260, the board may require owners and operators to submit additional information or to develop and submit a corrective action plan for responding to contaminated soils and ground water. If a plan is required, owners and operators must submit the plan according to a schedule and format established by the board. Alternatively, owners and operators may, after fulfilling the requirements of 9VAC25-580-240 through 9VAC25-580-260, choose to submit a corrective action plan for responding to contaminated soil and ground water. In either case, owners and operators are responsible for submitting a plan that provides for adequate protection of human health and the environment as determined by the board, and must modify their plan as necessary to meet this standard.
- B. In conjunction with the information provided under subdivision A 2 of 9VAC25-580-260 (site assessment, risk (exposure) assessment, and remediation assessment), the corrective action plan must include the following information:
- 1. Detailed conceptual design including narrative description of technologies and how they will be applied at the site;

- 2. Projected remediation end points/degree of remediation;
- 3. Schedule of project implementation;
- 4. Schedule to achieve projected end points;
- 5. Operational and post-operational monitoring schedules (to include data submittals);
- 6. Proposed disposition of any wastes and discharges (if applicable);
- 7. Actions taken to obtain any necessary federal, state and local permits to implement the plan; and
- 8. Proposed actions to notify persons directly affected by the release or the planned corrective action.
- C. The board will approve the corrective action plan only after ensuring that implementation of the plan will adequately protect human health, safety, and the environment. In making this determination, the board will consider the following factors as appropriate:
- 1. The physical and chemical characteristics of the regulated substance, including its toxicity, persistence, and potential for migration;
- 2. The hydrogeologic characteristics of the facility and the surrounding area;
- 3. The proximity, quality, and current and future uses of nearby surface water and ground water;
- 4. The potential effects of residual contamination on nearby surface water and ground water;
- 5. The site, risk (exposure), and remediation assessments as required by subdivision A 2 of 9VAC25-580-260; and
- 6. Any information assembled in compliance with this part.
- D. Upon approval of the corrective action plan or as directed by the board, owners and operators must implement the plan, including modifications to the plan made by the board. They must monitor, evaluate, and report the results of implementing the plan in accordance with a schedule and in a format established by the board.
- E. Owners and operators may, in the interest of minimizing environmental contamination and promoting more effective cleanup, begin cleanup of soil and ground water before the corrective action plan is approved provided that they:
- 1. Notify the board of their intention to begin cleanup and obtain written approval to proceed with an agreed upon activity;
- 2. Comply with any conditions imposed by the board, including halting cleanup or mitigating adverse consequences from cleanup activities; and
- 3. Incorporate these self-initiated cleanup measures in the corrective action plan that is submitted to the board for approval.

9VAC25-580-290. Corrective action plan (CAP) permit.

[Repealed]

- A. Owners and operators shall file a complete application for and obtain a Corrective action plan (CAP) permit from the board for any corrective action plan required by 9VAC25-580-280 of this chapter.
- B. If the corrective action plan involves a point source discharge of pollutants to surface waters, the CAP permit application shall be processed in accordance with the procedures and the requirements set forth in the board's permit regulation (9VAC25-30-10 et seq.) and the provisions of that regulation shall apply mutatis mutandis. The CAP permit shall include, but not be limited to, a schedule and format for the corrective action plan, the corrective action plan, and all of the pertinent conditions set forth in 9VAC25-30-10 et seq.
- C. If the corrective action plan involves only the management of pollutants that are not point source discharges to surface waters, the owner and operator shall be exempt from the requirement to obtain a Virginia Pollution Abatement (VPA) permit under 9VAC25-30-10 et seq. conditioned upon:
- 1. The owner and operator shall obtain the CAP permit which shall contain the conditions, and be processed in accordance with the procedures and requirements, set forth in 9VAC25-30-10 et seq.;
- 2. The CAP permit shall include, where appropriate, a schedule and format for the corrective action plan and the corrective action plan; and
- 3. The application shall be publicly noticed in accordance with 9VAC25-580-300 and subsections A and B of 9VAC25-30-10 et seq.
- D. If the corrective action plan involves the introduction of pollutants into publicly owned treatment works, owners and operators shall also comply with the board's and any publicly owned treatment work's pretreatment program requirements.

9VAC25-580-300. Public participation.

- A. For each confirmed release that requires a corrective action plan, the board will require the owner and operator to provide notice to the public by means designed to reach those members of the public directly affected by the release or the planned corrective action. This notice may include, but is not limited to, public notice in local newspapers, block advertisements, public service announcements, publication in a state register, letters to individual households, or personal contacts by field staff.
- B. The board must ensure that site release information and decisions concerning the corrective action plan are made available to the public for inspection upon request.
- C. Before approving a corrective action plan, the board may hold a public meeting to consider comments on the proposed corrective action plan if there is sufficient public interest, or for any other reason.

- D. The board will require the owner and operator to give public notice that complies with subsection A of this section if implementation of an approved corrective action plan does not achieve the established cleanup levels in the plan and termination of that plan is under consideration by the board.
- E. These public participation requirements do not supersede any public participation requirements of other regulations.
- F. In the event the owner and operator have failed to give the required notice to the public, the board will provide such notice to the extent required by applicable federal law.
- G. In those cases where the board implements the corrective plan, the board will provide such notice to the extent required by applicable federal law.

9VAC25-580-310. Temporary closure.

Owners and operators must obtain a permit and the required inspections in accordance with the provisions of the Virginia Uniform Statewide Building Code (§36-97 et seq. of the Code of Virginia).

A permit from the building official must be obtained prior to temporary tank closure. No UST system shall be temporarily closed unless and until the system is inspected in accordance with the provisions of the Virginia Uniform Statewide Building Code (§36-97 et seq. of the Code of Virginia).

In the case of state-owned facilities the Department of General Services shall function as the building official in accordance with §36-98.1 of the Code of Virginia.

In the case of federal facilities the building official must be contacted. Owners and operators must obtain a permit and the required inspections in accordance with the provisions of the Virginia Uniform Statewide Building Code (§36-97 et seq. of the Code of Virginia).

- 1. When an UST system is temporarily closed, owners and operators must continue operation and maintenance of corrosion protection in accordance with 9VAC25-580-90, and any release detection in accordance with Part IV. Parts V and VI must be complied with if a release is suspected or confirmed. However, release detection is not required as long as the UST system is empty. The UST system is empty when all materials have been removed using commonly employed practices so that no more than 2.5 centimeters (one inch) of residue, or 0.3% by weight of the total capacity of the UST system, remain in the system.
- 2. When an UST system is temporarily closed for three months or more, owners and operators must also comply with the following requirements:
- a. Leave vent lines open and functioning; and
- b. Cap and secure all other lines, pumps, manways, and ancillary equipment.
- 3. When an UST system is temporarily closed for more than 12 months, owners and operators must permanently close the UST system if it does not meet either performance standards in 9VAC25-580-50 for new UST systems or the upgrading requirements in 9VAC25-580-60,

except that the spill and overfill equipment requirements do not have to be met. Owners and operators must permanently close the substandard UST systems at the end of this 12-month period in accordance with 9VAC25-580-320 through 9VAC25-580-350, unless the building official provides an extension of the 12-month temporary closure period. Owners and operators must complete a site assessment in accordance with 9VAC25-580-330 before such an extension can be applied for.

9VAC25-580-320. Permanent closure and changes-in-service.

Owners and operators must obtain a permit and the required inspections in accordance with the Virginia Uniform Statewide Building Code (§36-47 et seq. of the Code of Virginia).

A permit from the building official must be obtained prior to permanent tank closure or a change-in-service. No UST system shall be permanently closed or changed-in-service unless and until the system is inspected in accordance with the provisions of the Virginia Uniform Statewide Building Code(§36-47 et seq. of the Code of Virginia).

If such closure is in response to immediate corrective actions that necessitate timely tank removal, then the building official must be notified and the official's directions followed until a permit is issued.

In the case of state-owned facilities the Department of General Services shall function as the building official in accordance with §36-98.1 of the Code of Virginia.

In the case of federal facilities the building official must be contacted. Owners and operators must obtain a permit and the required inspections in accordance with the provisions of the Virginia Uniform Statewide Building Code.

- 1. Owners and operators must within 30 days after either permanent closure or a change-inservice submit an amended UST notification form (Appendix I) to the board.
- 2. The required assessment of the excavation zone under 9VAC25-580-330 must be performed after notifying the building official but before completion of the permanent closure or a change-in-service.
- 3. To permanently close a tank, owners and operators must empty and clean it by removing all liquids and accumulated sludges. When the owner or operator suspects that the residual sludges are hazardous in nature the Department of Environmental Quality Waste Management regulations shall be followed to facilitate the proper treatment, storage, manifesting, transport, and disposal. All tanks taken out of service permanently must also be either removed from the ground or filled with an inert solid material.
- 4. Continued use of an UST system to store a nonregulated substance is considered a change-in-service. Before a change-in-service, owners and operators must empty and clean the tank by removing all liquid and accumulated sludge and conduct a site assessment in accordance with 9VAC25-580-330.

NOTE: The following cleaning and closure procedures may be used to comply with this section:

a. American Petroleum Institute Recommended Practice 1604, "Removal and Disposal of Used

Underground Petroleum Storage Tanks";

- b. American Petroleum Institute Publication 2015, "Cleaning Petroleum Storage Tanks";
- c. American Petroleum Institute Recommended Practice 1631, "Interior Lining of Underground Storage Tanks," may be used as guidance for compliance with this section; and
- d. The National Institute for Occupational Safety and Health "Criteria for a Recommended Standard *** Working in Confined Space" may be used as guidance for conducting safe closure procedures at some hazardous substance tanks.

9VAC25-580-330. Assessing the site at closure or change-in-service.

A. Before permanent closure or a change-in-service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample type or types (soil or water) and sample location or locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release. Samples shall be tested according to established EPA analytical methods or methods approved by the board. Where the suspected release is a petroleum product, the samples shall be analyzed for total petroleum hydrocarbons (TPH). The requirements of this section are satisfied if one of the external release detection methods allowed in subsections 5 and 6 of 9VAC25-580-160 is operating in accordance with the requirements in 9VAC25-580-160 at the time of closure, and indicates no release has occurred.

B. In all cases where a sample or samples are analyzed, the owner and operator shall submit, along with the amended UST notification form as required in subsection 1 of 9VAC25-580-320, a copy of the laboratory results (including a statement as to the test method used), a description of the area sampled, and a site map depicting tanks, piping, and sample location or locations.

C. If contaminated soils, contaminated ground water, or free product as a liquid or vapor is discovered under subsection A of this section, or by any other manner, owners and operators must begin corrective action in accordance with Part VI.

9VAC25-580-340. Applicability to previously closed UST systems.

When directed by the board, the owner and operator of an UST system permanently closed before December 22, 1988, must assess the excavation zone and close the UST system in accordance with this part if releases from the UST may, in the judgment of the board, pose a current or potential threat to human health and the environment.

9VAC25-580-350. Closure records.

Owners and operators must maintain records in accordance with 9VAC25-580-120 that are capable of demonstrating compliance with closure requirements under this part. The results of the excavation zone assessment required in 9VAC25-580-330 must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

1. By the owners and operators who took the UST system out of service;

- 2. By the current owners and operators of the UST system site; or
- 3. By mailing these records to the board if they cannot be maintained at the closed facility.

9VAC25-580-360. Delegation of authority.

The Director of the Department of Environmental Quality, or in his absence a designee acting for him, may perform any act of the board provided under this chapter, except as limited by §62.1-44.14 of the Code of Virginia.